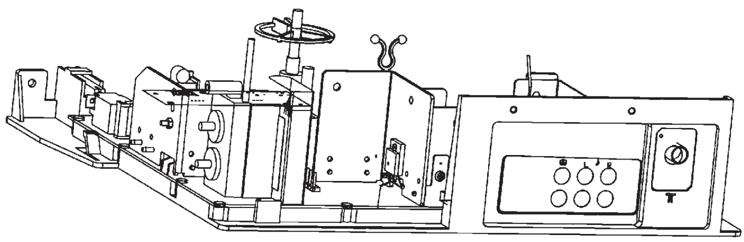
APEX

COLOR TELEVISION

SERVICE MANUAL

MODEL NO.: GT2015

CHASSIS NO.: CN-12C2



CONTENTS

SET-UP ADJUSTMENTS (continued)

9) Stick three adhesive tapes on wedges as shown in Fig. 13.

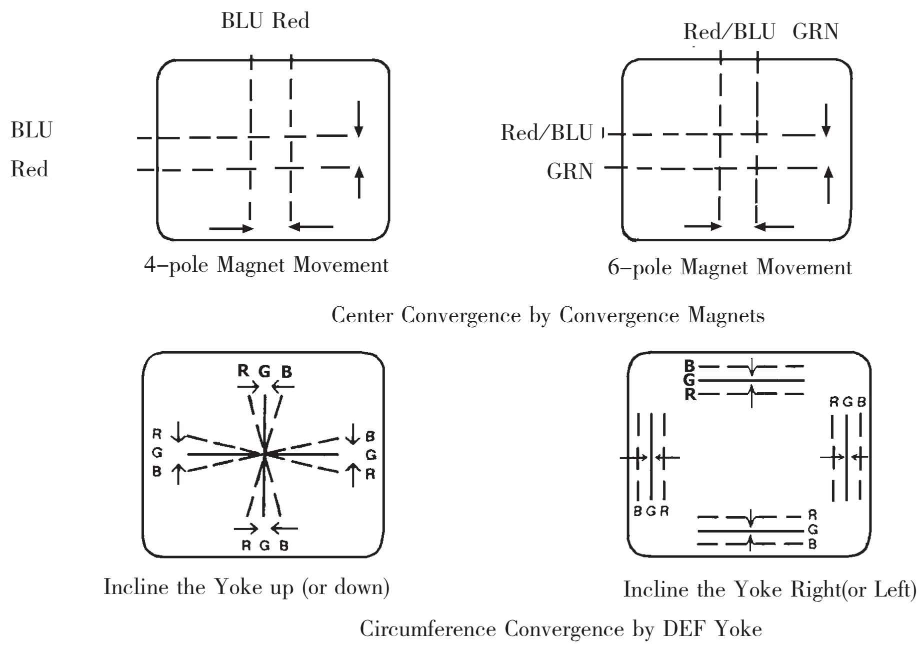


Fig. 15

SERVICE MODE AND BUS DATA

1. To Enter the Service Mode

1) Decrease the volume to 0 with the remote control.
2) Press the MUTE button on the remote control and MENU button on the TV at the same time. "S" appears on the TV screen and the TV enters the Service mode.
3) Press the CH-/+ buttons to select an adjustment, and the VOL-/+ buttons to adjust data.

SERVICE MODE AND BUS DATA (continued)

2. Bus Data

MENU. 00	
V.POSITION	40
H.PHASE	15
V.SIZE	60
V.SC	18
V.LINE	19
V.SIZE CMP	7
MENU. 01	
SUB.BIAS	63
SUB.CONT	63
V.KILL	0
RF.AGC	20
R.BIAS	130
G.BIAS	130
B.BIAS	130
R.DRIVE	75
G.DRIVE	15
B.DRIVE	75
MENU. 02	
SECAM B DC	0
SECAM B DC	0
H.AFC GAIN	0
SYNC.KIL	0
H.BLK.L	4
H.BLK.R	4
CROS.B/W	0
VIDEO.LVL	7
FM.LEVEL	16
MENU. 03	
FM.MUTE	0
AUDIO.MUTE	0
VIDEO.MUTE	0
DEEM.TC	0
SND.TRAP	0

SERVICE MODE AND BUS DATA (continued)

MENU. 04	
SUB.COLOR	63
SUB.TINT	32
SUB.SHARP	63
AUTO FLESH	0
CORING.GAN	1
C.EXT	0
C.BYPASS	0
C.KILL ON	0
MENU. 05	
FIL.SYS	0
COLOR.SYS	5
VOL.FIL	0
VIF.SYS	0
SIF.SYS.SW	0
VODEO.SW	1
MENU. 06	
R/B G.BAL	7
R/B ANGLE	9
CD.MODE	0
GRAY MODE	0
V.SEPUP	1
MENU. 07	
BLANK.DEF	0
BRT.ABL.TH	7
RGB TEMP	1
BRT.ABL.DF	0
MID.STP.DF	1
FBP.BLK.SW	0
MENU. 08	
DIGTAL OSD	0
OSD.CONT	10
OSD.CONTST	0
OSD H.POS	22

SERVICE MODE AND BUS DATA (continued)

MENU. 09	
H.FREQ	46
FM.GAIN	0
C.KILL.OFF	0
AUDIO.SW	0
T.DISBLE	1
MENU. 10	
G/Y ANGLE	0
COL KIL OP	7
CBCR-IN	1
Y-APF	0
PRE SHOOT	0
WPL OPE	0
DC REST	0
BK STR STA	1
BK STR GAN	1
MENU. 11	
OVER MD SW	1
Y GAMMA	0
FSC C.SYNC	1
VBLK SW	0
SND TRAP	1
HALF TONE	3
HALF T SW	1
TST VERSET	0
MENU. 12	
E/W DC	32
E/W AMP	32
E/W TILT	32
E/W C TOP	5
E/W C BOTM	5
MENU. 13	
E/W TEST	7
HSIZE COMP	7

SERVICE MODE AND BUS DATA (continued)

IF TEST 3B	0
V.LEV ADJ	0
OV MOD LEV	5
PRE/OVER	0
C.VCO SW	0
C.VCO ADJ	0
MENU. 14	
VNSYNC	0
TINT.THROU	0
HLOCK.VDET	0
MENU. 15	
OPT.1CHIP	1
OPT.VIDEO	1
OPT.AV1AV2	1
OPT.AV3	0
OPT.S-VHS	1
OPT.YUV	0
OPT.COMB	0
OPT.BYPASS	0
MENU. 16	
OPT.VM	
OPT.BLUEBK	0
OPT.V-CHIP	1
OPT.CCD	1
OPT.CLOCK	1
OPT.P-ON	1
X-RAY.VOLT	0
SRCH.SPEED	40
ROM	0
CORREC	0
MENU. 17	
OPT.BTSC	1
OPT.AV-INP	0
OPT.BBE	0

SERVICE MODE AND BUS DATA (continued)

SUB.BASS	3
SUB.TREBLE	3
MENU. 18	
LOUDNESS	9
FM/AM.PRES	63
SCART.PRES	27
SCART.VOL	117
OPT.AVC	1
AVC.DECAY	2
BBE.BASS	32
BBE.TREBLE	32

Notes:

① The data sheet may differ dependent on different models.
② The data sheet may differ dependent on different CRTs for the same model.
③ Do not adjust I^2C data with the remote jig unless necessary.
④ The remote jigs on neighboring work position cannot affect each other.
⑤ For the TVs with the AV3 function, set OPT.AV3 to 1.
⑥ For the TVs with the YUV function, set OPT.YUV to 1.
⑦ For the TVs with the BLUE BACK function, set OPT.BLUEBK to 1.
⑧ For the TVs with the BTSC function, set OPT.BTSC to 1.

3. Service Mode Adjustment

1) Sub-brightness

a) Receive colour signals.

b) Set the contrast to maximum and brightness to medium.

c) Set the chroma to medium.
Enter the TV to the Service mode. Select "BRIGHT-MID" by pressing the ←/→ buttons on the remote control, and set the data to 31 by pressing the data adjustment buttons. Operate the TV for 5 minutes in the mode.

d) Adjust the BRIGHT-MID data until blurry picture does not appear on the high bright area of the screen and too dim picture not on the low-bright area.

e) Set the contrast and brightness to maximum or minimum, and then test normal picture alternation.

f) If the picture does not become dark when the contrast and brightness are set to minimum, or not become bright when set to maximum, then adjust the BRIGHT-MID data to get normal picture.

2) White balance adjustment

SERVICE MODE AND BUS DATA (continued)

a) Turn on the TV and preheat it for over 7 minutes.

b) Use the remote control to set the contrast to maximum and the brightness to medium. Set the chroma to minimum.

c) Enter the TV to the Service mode, and set the following data without changing other items.

R-DRIVE············ 75
G-DRIVE············ 15
B-DRIVE············ 75

d) Pull out the external antenna and press the MUTE button once on the remote control until a right horizontal line appears on the screen. Adjust the R-DRV data to get 160V±0.5 green gun voltage across the CRT RGB PCB.

e) Adjust the G-DRV and B-DRV data according to Step 4 so that the bright horizontal line turns to yellow, then to white.

3) Horizontal centering adjustment

Enter the TV to the Service mode and receive Philips test pattern signals. Select “H-SHIFT” by pressing the ←/→ buttons on the remote control, and adjust horizontal picture position in the centre of screen by pressing the data adjustment buttons.

4) Vertical centering adjustment

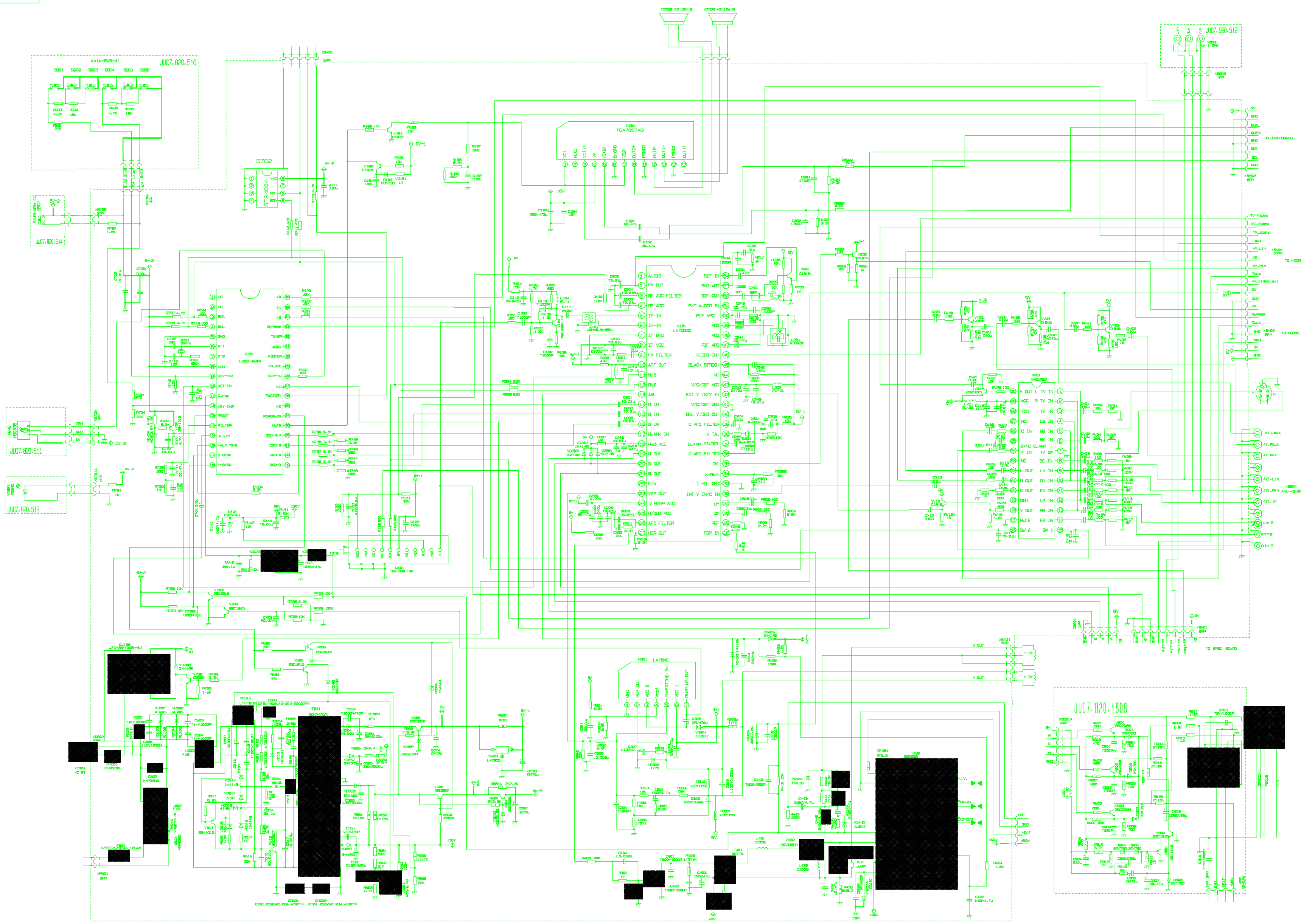
Enter the TV to the Service mode and receive Philips test pattern signals. Select “V-SHIFT” or “VP60” by pressing the ←/→ buttons on the remote control, and adjust vertical picture position in the centre of screen by pressing the data adjustment buttons.

5) Vertical amplitude adjustment

Enter the TV to the Service mode and receive grille test pattern signals. Select “V-AMPL” by pressing the ←/→ buttons on the remote control, and adjust vertical amplitude by pressing the data adjustment buttons so that vertical amplitude is not enough. Continue to adjust vertical amplitude by pressing the data adjustment button until the first bar on grille signals touches edge of the screen.

6) Horizontal amplitude adjustment

Enter the TV to the Service mode and receive grille test pattern signals. Select “H-AMPL” by pressing the ←/→ buttons on the remote control, and adjust horizontal amplitude by pressing the data adjustment buttons so that horizontal amplitude is not enough. Continue to adjust horizontal amplitude by pressing the data adjustment button until the first bar on grille signals touches edge of the screen.



1. Any components identified by ⚠ have special safety-related characteristics.
   Use replacement components which have the same characteristics as the original parts.

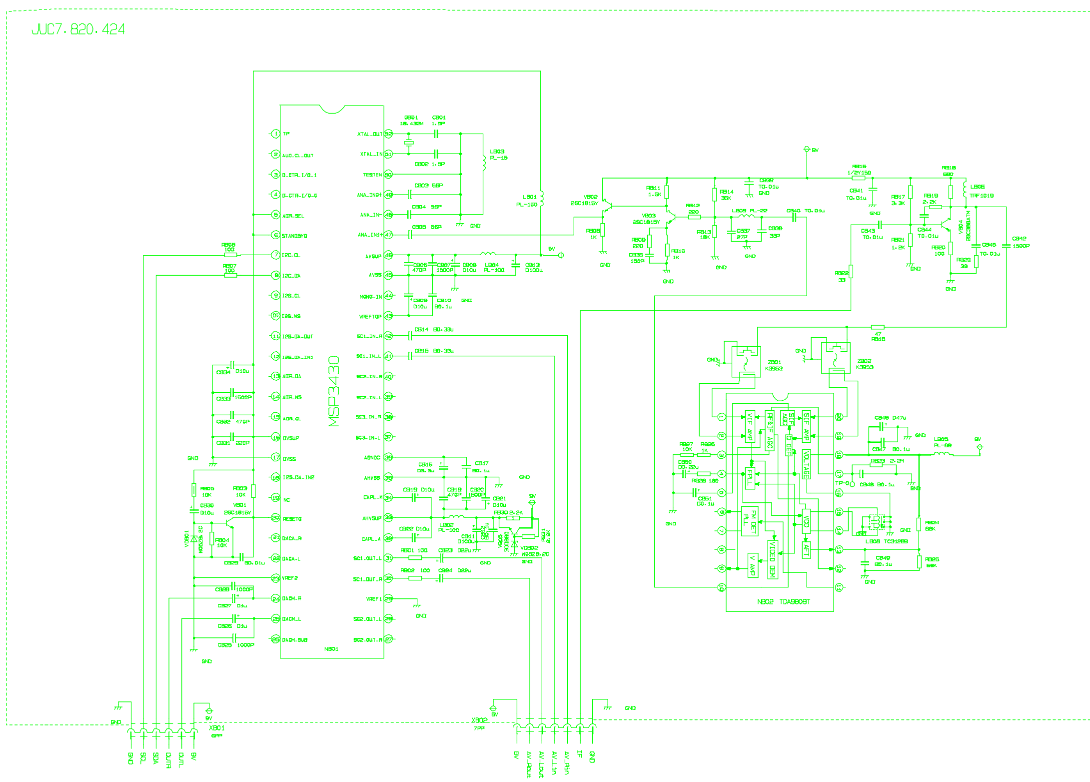
2. ⏚ Cold ground ⊥ Hot ground

3. ⚠ FDA This symbol tells you that replacement components related to high voltage, beam current and X_ray radiation should not be made at will.

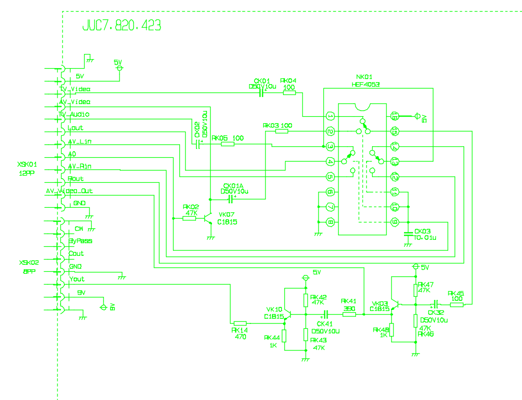
This circuit diagram is only for reference.
Specifications are subject to change without notice.

DESIGNER		CIRCUIT DIAGRAM OF GT2015	JUC2.025.293DL
DATE			
MANAGER			
DATE			The 1 page / Total 2 page

BTSC BOARD



NCOMB BOARD



1 ⚠ 凡标有该标记者在整机安全和性能上有特殊要求,
请一定使用原规格型号的元器件

2 元器件规格型号,详见整机明细表

更改标计	数量	文件号	签 名	日期	更改标记	数量	文件号	签 名	日期	更改标记	数量	文件号	签 名	日期
设 计					GT2015 电路图					JUC2.025.293DL				
审 核														
工 艺														
标准化														
批 准										第 2 张			共 2 张	

制图:　描图:　幅面: 1

旧底图总号

底图总号